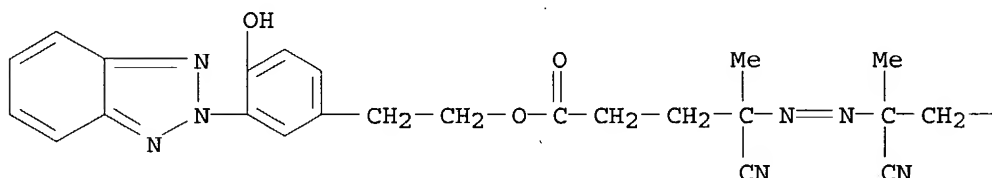


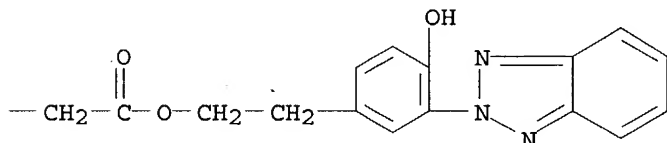
3N 10/753,254

L5 ANSWER 1 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 726187-92-4 REGISTRY
 CN Pentanoic acid, 4,4'-azobis[4-cyano-, bis[2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl] ester (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C40 H38 N10 O6
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL
 DT.CA CAplus document type: Patent
 RL.P Roles from patents: PREP (Preparation); USES (Uses)

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 141:145753 CA
 TI Dual function UV-absorbers for ophthalmic lens materials
 IN Schlueter, Douglas C.
 PA Alcon, Inc., Switz.
 SO PCT Int. Appl., 23 pp.
 CODEN: PIXXD2

DT Patent
 LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004062371	A1	20040729	WO 2003-US39846	20031215
W: AU, CA, JP, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
US 2004157948	A1	20040812	US 2004-753254	20040108

PRAI US 2003-438978P 20030109

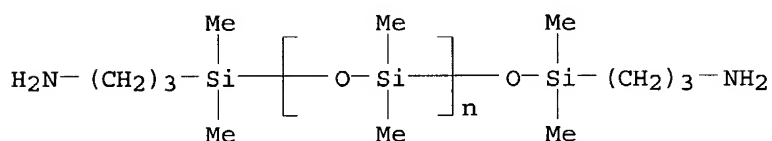
AB Disclosed are UV absorbers that contain a labile functional group capable of initiating free radical polymerization. For example, 4,4'-azobis(4-cyanopentanoic acid) was esterified with 3-(2H-benzotriazol-2-yl)-4-hydroxyphenethyl alc. to give an UV absorbing initiator. A scintillation vial was charged with 1,4-butanediol, 2-phenethyl acrylate, and 2-phenethyl methacrylate. The mixture was purged with N2 and the prepared

ester, then filtered, dispensed into a mold, and heated to obtain an ophthalmic lens.

L5 ANSWER 2 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 483979-79-9 REGISTRY
 CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with α -[(3-aminopropyl)dimethylsilyl]- ω -[[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)
 MF (C18 H17 N3 O3 . C12 H16 N4 O4 . (C2 H6 O Si)n C10 H28 N2 O Si2)x
 CI PMS
 PCT Polyacrylic, Polyamide, Polyamide formed
 SR CA
 LC STN Files: CA, CAPLUS
 DT.CA CAlplus document type: Patent
 RL.P Roles from patents: PREP (Preparation); USES (Uses)

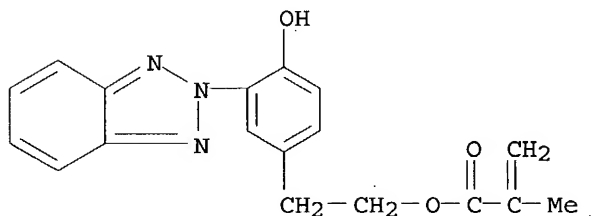
CM 1

CRN 97917-34-5
 CMF (C2 H6 O Si)n C10 H28 N2 O Si2
 CCI PMS



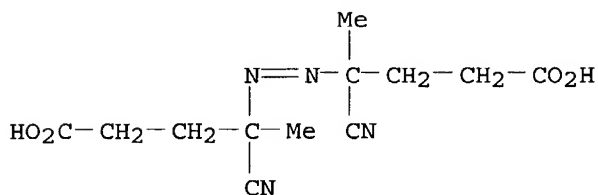
CM 2

CRN 96478-09-0
 CMF C18 H17 N3 O3



CM 3

CRN 2638-94-0
 CMF C12 H16 N4 O4



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 138:91487 CA
TI UV-absorbing resins, their coating compositions, and peeling method
IN Arimoto, Kunio; Sakaegawa, Masahiro; Wakau, Hideki; Tago, Kazuto; Nishida, Hideo
PA Ishihara Yakuhin Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003012726	A2	20030115	JP 2001-195250	20010627
PRAI	JP 2001-195250		20010627		

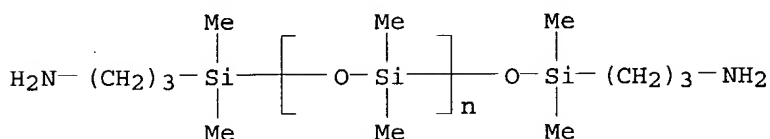
AB The resins are manufactured from UV-absorbing reactive compds. containing (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted (hydroxyphenyl)benzotriazoles or (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted hydroxyphenyl Ph ketones and polymerizable dimethylpolysiloxanes having structure of $\text{CO}(\text{CH}_2)\text{aCR}_{11}\text{R}_{12}\text{N}:\text{NCR}_{11}\text{R}_{12}(\text{CH}_2)\text{aCOAR}_{13}\text{SiMe}_2(\text{OSiMe}_2)\text{bOSiMe}_2\text{R}_{13}\text{A}$ ($\text{R}_{11} = \text{H}$, Me ; $\text{R}_{12} = \text{Me}$ cyano; $\text{R}_{13} = \text{C1-10}$ alkylene, alkyleneoxy; $\text{A} = \text{O}$, imino; $\text{a} = 0-6$; $\text{b} = 10-500$). Coatings are peelable with $\text{pH} \geq 8$ alkalies. Thus, a composition containing

2-[2'-hydroxy-5'-(methacryloyloxyethyl)phenyl]-2H-benzotriazole 2, a polysiloxane (VPS 0501) 4, and Me methacrylate 4 parts was polymerized and applied on a plate to give a coating showing good transparency after soaking in water for 48 h.

L5 ANSWER 3 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN 483979-78-8 REGISTRY
CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with α -[(3-aminopropyl)dimethylsilyl]- ω -[[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl 2-methyl-2-propenoate and dodecyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)
MF (C18 H17 N3 O3 . C16 H30 O2 . C12 H16 N4 O4 . (C2 H6 O Si) $_n$ C10 H28 N2 O Si2) $_x$
CI PMS
PCT Polyacrylic, Polyamide, Polyamide formed, Polyamine, Polyamine formed
SR CA
LC STN Files: CA, CAPLUS
DT.CA Caplus document type: Patent
RL.P Roles from patents: PREP (Preparation); USES (Uses)

CM 1

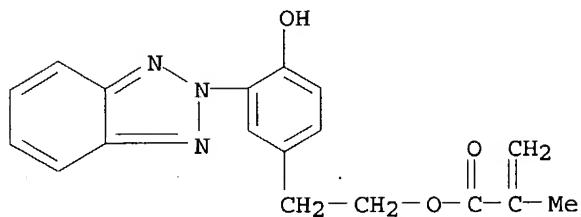
CRN 97917-34-5
CMF (C2 H6 O Si) $_n$ C10 H28 N2 O Si2
CCI PMS



CM 2

CRN 96478-09-0

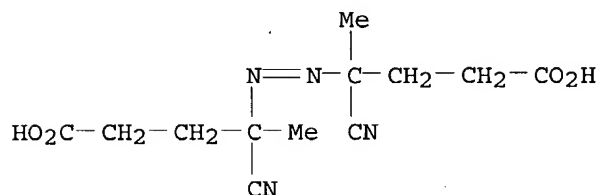
CMF C18 H17 N3 O3



CM 3

CRN 2638-94-0

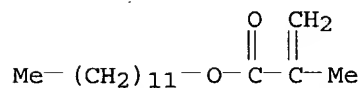
CMF C12 H16 N4 O4



CM 4

CRN 142-90-5

CMF C16 H30 O2



1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 138:91487 CA
TI UV-absorbing resins, their coating compositions, and peeling method
IN Arimoto, Kunio; Sakaegawa, Masahiro; Wakau, Hideki; Tago, Kazuto; Nishida, Hideo
PA Ishihara Yakuhin Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003012726	A2	20030115	JP 2001-195250	20010627
PRAI	JP 2001-195250		20010627		
AB	The resins are manufactured from UV-absorbing reactive compds. containing				

(meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted (hydroxyphenyl)benzotriazoles or (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted hydroxyphenyl Ph ketones and polymerizable dimethylpolysiloxanes having structure of $\text{CO}(\text{CH}_2)\text{aCR11R12N:NCR11R12}(\text{CH}_2)\text{aCOAR13SiMe}_2(\text{OSiMe}_2)\text{bOSiMe}_2\text{R13A}$ ($\text{R11} = \text{H}, \text{Me}; \text{R12} = \text{Me cyano}; \text{R13} = \text{C1-10 alkylene, alkyleneoxy}; \text{A} = \text{O, imino}; \text{a} = 0-6; \text{b} = 10-500$). Coatings are peelable with $\text{pH} \geq 8$ alkalies.

Thus, a composition containing

2-[2'-hydroxy-5'-(methacryloyloxyethyl)phenyl]-2H-benzotriazole 2, a polysiloxane (VPS 0501) 4, and Me methacrylate 4 parts was polymerized and applied on a plate to give a coating showing good transparency after soaking in water for 48 h.

L5 ANSWER 4 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN

RN 483979-77-7 REGISTRY

CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with α -[(3-aminopropyl)dimethylsilyl]- ω -[[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)]], 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl 2-methyl-2-propenoate and cyclohexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

MF (C18 H17 N3 O3 . C12 H16 N4 O4 . C10 H16 O2 . (C2 H6 O Si)n C10 H28 N2 O Si2)x

CI PMS

PCT Polyacrylic, Polyamide, Polyamide formed, Polyamine, Polyamine formed

SR CA

LC STN Files: CA, CAPLUS

DT.CA CAplus document type: Patent

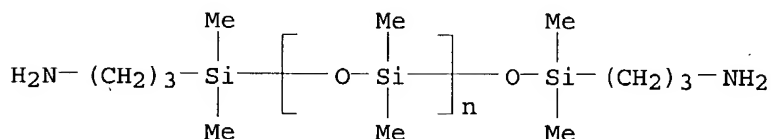
RL.P Roles from patents: PREP (Preparation); USES (Uses)

CM 1

CRN 97917-34-5

CMF (C2 H6 O Si)n C10 H28 N2 O Si2

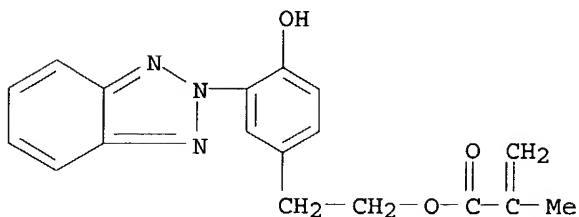
CCI PMS



CM 2

CRN 96478-09-0

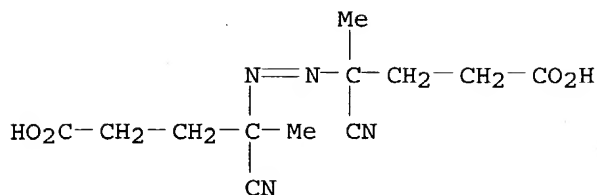
CMF C18 H17 N3 O3



CM 3

CRN 2638-94-0

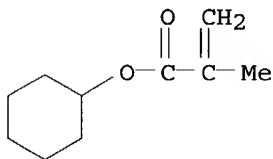
CMF C12 H16 N4 O4



CM 4

CRN 101-43-9

CMF C10 H16 O2



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 138:91487 CA
TI UV-absorbing resins, their coating compositions, and peeling method
IN Arimoto, Kunio; Sakaegawa, Masahiro; Wakau, Hideki; Tago, Kazuto; Nishida, Hideo
PA Ishihara Yakuhin Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003012726	A2	20030115	JP 2001-195250	20010627
JP 2001-195250		20010627		

AB The resins are manufactured from UV-absorbing reactive compds. containing (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted (hydroxyphenyl)benzotriazoles or (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted hydroxyphenyl Ph ketones and polymerizable dimethylpolysiloxanes having structure of $\text{CO}(\text{CH}_2)\text{aCR}_{11}\text{R}_{12}\text{N}:\text{NCR}_{11}\text{R}_{12}(\text{CH}_2)\text{aCOAR}_{13}\text{SiMe}_2(\text{OSiMe}_2)\text{bOSiMe}_2\text{R}_{13}\text{A}$ ($\text{R}_{11} = \text{H}$, Me ; $\text{R}_{12} = \text{Me}$ cyano; $\text{R}_{13} = \text{C1-10}$ alkylene, alkyleneoxy; $\text{A} = \text{O}$, imino; $\text{a} = 0-6$; $\text{b} = 10-500$). Coatings are peelable with $\text{pH} \geq 8$ alkalies. Thus, a composition containing

2-[2'-hydroxy-5'-(methacryloyloxyethyl)phenyl]-2H-benzotriazole 2, a polysiloxane (VPS 0501) 4, and Me methacrylate 4 parts was polymerized and applied on a plate to give a coating showing good transparency after soaking in water for 48 h.

L5 ANSWER 5 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN 483979-76-6 REGISTRY
CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with α -[(3-aminopropyl)dimethylsilyl]- ω -[[[(3-aminopropyl)dimethylsilyl]oxy]poly

[oxy(dimethylsilylene)], 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl
 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate and 2-propenoic acid
 (9CI) (CA INDEX NAME)

MF (C18 H17 N3 O3 . C12 H16 N4 O4 . C5 H8 O2 . C3 H4 O2 . (C2 H6 O Si)n C10
 H28 N2 O Si2)x

CI PMS

PCT Polyacrylic, Polyamide, Polyamide formed, Polyamine, Polyamine formed

SR CA

LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Patent

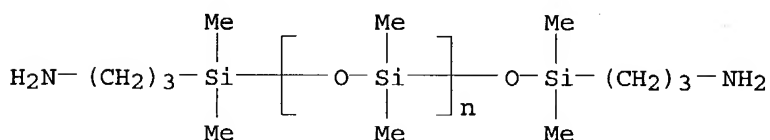
RL.P Roles from patents: PREP (Preparation); USES (Uses)

CM 1

CRN 97917-34-5

CMF (C2 H6 O Si)n C10 H28 N2 O Si2

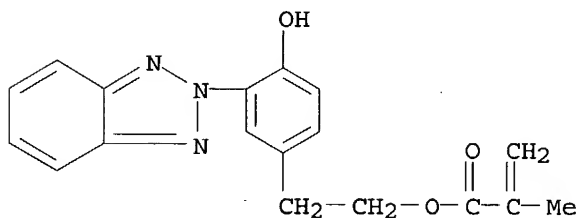
CCI PMS



CM 2

CRN 96478-09-0

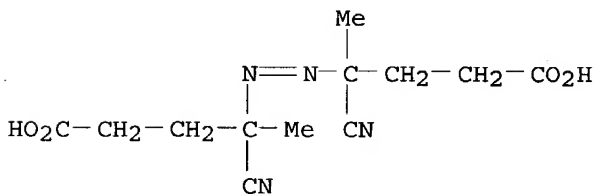
CMF C18 H17 N3 O3



CM 3

CRN 2638-94-0

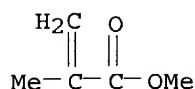
CMF C12 H16 N4 O4



CM 4

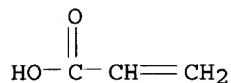
CRN 80-62-6

CMF C5 H8 O2



CM 5

CRN 79-10-7
CMF C3 H4 O2



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 138:91487 CA
TI UV-absorbing resins, their coating compositions, and peeling method
IN Arimoto, Kunio; Sakaegawa, Masahiro; Wakau, Hideki; Tago, Kazuto; Nishida, Hideo
PA Ishihara Yakuhin Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003012726	A2	20030115	JP 2001-195250	20010627
PRAI	JP 2001-195250		20010627		

AB The resins are manufactured from UV-absorbing reactive compds. containing (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted (hydroxyphenyl)benzotriazoles or (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted hydroxyphenyl Ph ketones and polymerizable dimethylpolysiloxanes having structure of CO(CH₂)_aCR₁₁R₁₂N:NCR₁₁R₁₂(CH₂)_aCOAR₁₃SiMe₂(OSiMe₂)_bOSiMe₂R₁₃A (R₁₁ = H, Me; R₁₂ = Me cyano; R₁₃ = C1-10 alkylene, alkyleneoxy; A = O, imino; a = 0-6; b = 10-500). Coatings are peelable with pH ≥ 8 alkalies. Thus, a composition containing
2-[2'-hydroxy-5'-(methacryloyloxyethyl)phenyl]-2H-benzotriazole 2, a polysiloxane (VPS 0501) 4, and Me methacrylate 4 parts was polymerized and applied on a plate to give a coating showing good transparency after soaking in water for 48 h.

L5 ANSWER 6 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN 483979-75-5 REGISTRY
CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with α-[(3-aminopropyl)dimethylsilyl]-ω-[[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 3-(4-benzoyl-3-hydroxyphenoxy)-2-hydroxypropyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)
MF (C20 H20 O6 . C12 H16 N4 O4 . C5 H8 O2 . (C2 H6 O Si)_n C10 H28 N2 O Si2)_x
CI PMS
PCT Polyacrylic, Polyamide, Polyamide formed, Polyamine, Polyamine formed, Polyester, Polyester formed, Polyether
SR CA

LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Patent

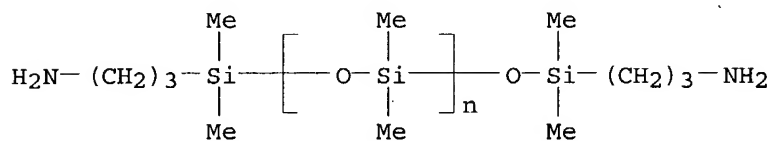
RL.P Roles from patents: PREP (Preparation); USES (Uses)

CM 1

CRN 97917-34-5

CMF (C2 H6 O Si)_n C10 H28 N2 O Si2

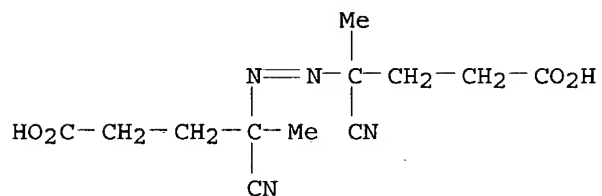
CCI PMS



CM 2

CRN 2638-94-0

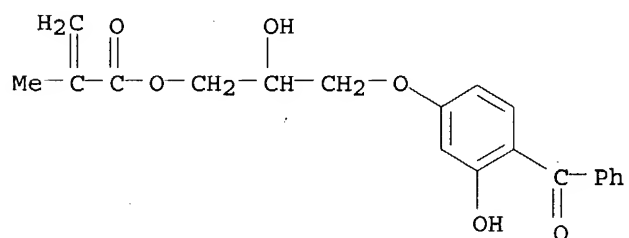
CMF C12 H16 N4 O4



CM 3

CRN 1823-18-3

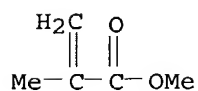
CMF C20 H20 O6



CM 4

CRN 80-62-6

CMF C5 H8 O2



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 138:91487 CA
TI UV-absorbing resins, their coating compositions, and peeling method
IN Arimoto, Kunio; Sakaegawa, Masahiro; Wakau, Hideki; Tago, Kazuto; Nishida, Hideo
PA Ishihara Yakuhin Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003012726	A2	20030115	JP 2001-195250	20010627
PRAI	JP 2001-195250		20010627		

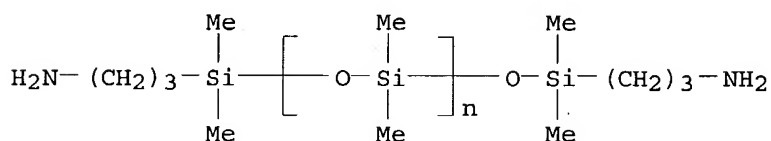
AB The resins are manufactured from UV-absorbing reactive compds. containing (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted (hydroxyphenyl)benzotriazoles or (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted hydroxyphenyl Ph ketones and polymerizable dimethylpolysiloxanes having structure of $\text{CO}(\text{CH}_2)\text{aCR}_{11}\text{R}_{12}\text{N}:\text{NCR}_{11}\text{R}_{12}(\text{CH}_2)\text{aCOAR}_{13}\text{SiMe}_2(\text{OSiMe}_2)\text{bOSiMe}_2\text{R}_{13}\text{A}$ ($\text{R}_{11} = \text{H}$, Me ; $\text{R}_{12} = \text{Me}$ cyano; $\text{R}_{13} = \text{C1-10 alkylene}$, alkyleneoxy ; $\text{A} = \text{O}$, imino; $\text{a} = 0-6$; $\text{b} = 10-500$). Coatings are peelable with $\text{pH} \geq 8$ alkalies. Thus, a composition containing

2-[2'-hydroxy-5'-(methacryloyloxyethyl)phenyl]-2H-benzotriazole 2, a polysiloxane (VPS 0501) 4, and Me methacrylate 4 parts was polymerized and applied on a plate to give a coating showing good transparency after soaking in water for 48 h.

L5 ANSWER 7 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN 483979-74-4 REGISTRY
CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with α -[(3-aminopropyl)dimethylsilyl]- ω -[[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)
MF (C18 H17 N3 O3 . C12 H16 N4 O4 . C5 H8 O2 . (C2 H6 O Si)n C10 H28 N2 O Si2)x
CI PMS
PCT Polyacrylic, Polyamide, Polyamide formed, Polyamine, Polyamine formed
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); USES (Uses)

CM 1

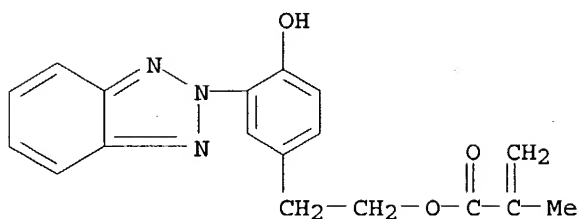
CRN 97917-34-5
CMF (C2 H6 O Si)n C10 H28 N2 O Si2
CCI PMS



CM 2

CRN 96478-09-0

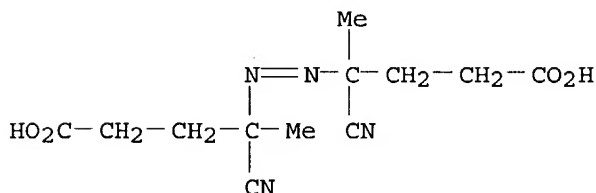
CMF C18 H17 N3 O3



CM 3

CRN 2638-94-0

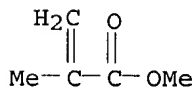
CMF C12 H16 N4 O4



CM 4

CRN 80-62-6

CMF C5 H8 O2



1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 138:91487 CA
TI UV-absorbing resins, their coating compositions, and peeling method
IN Arimoto, Kunio; Sakaegawa, Masahiro; Wakau, Hideki; Tago, Kazuto; Nishida, Hideo
PA Ishihara Yakuhin Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, '7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003012726	A2	20030115	JP 2001-195250	20010627
PRAI	JP 2001-195250		20010627		
AB	The resins are manufactured from UV-absorbing reactive compds. containing				

(meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted (hydroxyphenyl)benzotriazoles or (meth)acryloyloxy- or (methyl)vinylloxycarbonyl-substituted hydroxyphenyl Ph ketones and polymerizable dimethylpolysiloxanes having structure of $\text{CO}(\text{CH}_2)\text{aCR}_{11}\text{R}_{12}\text{N}:\text{NCR}_{11}\text{R}_{12}(\text{CH}_2)\text{aCOAR}_{13}\text{SiMe}_2(\text{OSiMe}_2)\text{bOSiMe}_2\text{R}_{13}\text{A}$ ($\text{R}_{11} = \text{H}$, Me ; $\text{R}_{12} = \text{Me}$ cyano; $\text{R}_{13} = \text{C}_1\text{-10}$ alkylene, alkyleneoxy; $\text{A} = \text{O}$, imino; $\text{a} = 0\text{-6}$; $\text{b} = 10\text{-500}$). Coatings are peelable with $\text{pH} \geq 8$ alkalies.

Thus, a composition containing

2-[2'-hydroxy-5'-(methacryloyloxyethyl)phenyl]-2H-benzotriazole 2, a polysiloxane (VPS 0501) 4, and Me methacrylate 4 parts was polymerized and applied on a plate to give a coating showing good transparency after soaking in water for 48 h.

L5 ANSWER 8 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN

RN 287714-32-3 REGISTRY

CN Pentanoic acid, 4,4'-azobis[4-cyano-, polymer with α -[(3-aminopropyl)dimethylsilyl]- ω -[[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], methyl 2-methyl-2-propenoate and 2-methyl-2-propenoic acid, block (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with α -[(3-aminopropyl)dimethylsilyl]- ω -[[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 4,4'-azobis[4-cyanopentanoic acid] and 2-methyl-2-propenoic acid, block (9CI)

CN 2-Propenoic acid, 2-methyl-, polymer with α -[(3-aminopropyl)dimethylsilyl]- ω -[[[(3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 4,4'-azobis[4-cyanopentanoic acid] and methyl 2-methyl-2-propenoate, block (9CI)

CN Poly[oxy(dimethylsilylene)], α -[(3-aminopropyl)dimethylsilyl]- ω -[[[(3-aminopropyl)dimethylsilyl]oxy]-, polymer with 4,4'-azobis[4-cyanopentanoic acid], methyl 2-methyl-2-propenoate and 2-methyl-2-propenoic acid, block (9CI)

MF (C12 H16 N4 O4 . C5 H8 O2 . C4 H6 O2 . (C2 H6 O Si)n C10 H28 N2 O Si2)x

CI PMS

PCT Polyacrylic, Polyamide, Polyamide formed, Polyamine, Polyamine formed

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER

DT.CA Caplus document type: Patent

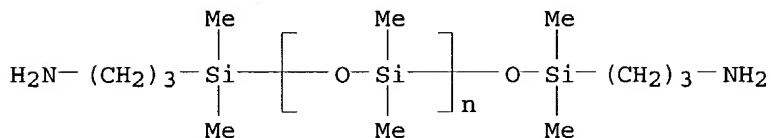
RL.P Roles from patents: PREP (Preparation); USES (Uses)

CM 1

CRN 97917-34-5

CMF (C2 H6 O Si)n C10 H28 N2 O Si2

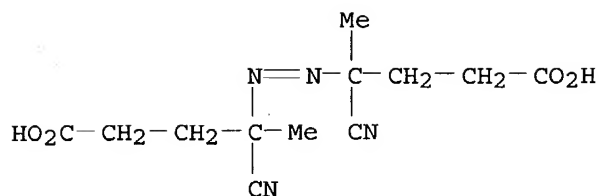
CCI PMS



CM 2

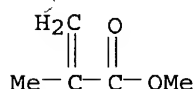
CRN 2638-94-0

CMF C12 H16 N4 O4



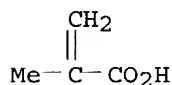
CM 3

CRN 80-62-6
CMF C5 H8 O2



CM 4

CRN 79-41-4
CMF C4 H6 O2



2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 137:171081 CA
TI Alkali-degradable photocatalyst coating compositions and removal of the films by using alkalis
IN Arimoto, Kunio; Eikawa, Masahiro; Tago, Kazuto; Nishida, Hideo; Shinohara, Kuniaki; Kitazaki, Satoshi
PA Ishihara Yakuhin Co., Ltd., Japan; Toto Ltd.
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002235028	A2	20020823	JP 2001-34702	20010209
PRAI	JP 2001-34702		20010209		

AB The coating comps. contain photocatalysts and copolymers mainly containing polymerizable unsatd. carboxylic acids, (meth)acrylates, and di-Me polysiloxane derivs. shown as $\text{CO}(\text{CH}_2)\text{aCR}_1\text{R}_2\text{N}:\text{NCR}_1\text{R}_2(\text{CH}_2)\text{aCOAR}_3\text{SiMe}_2(\text{OSiMe}_2)\text{bOSiMe}_2\text{R}_3\text{A}$ (I; $\text{R}_1 = \text{H}, \text{Me}$; $\text{R}_2 = \text{H}, \text{CN}$; $\text{R}_3 = \text{C1-10 alkylene}, \text{C1-10 alkyleneoxy}$; $\text{A} = \text{O}, :\text{NH}$; $\text{a} = 0-6$ integer, $\text{b} = 10-500$ integer). The comps. may contain UV absorbers 0-30, antioxidant 0.1-30, and quenchers 0.1-20 parts per 100 parts of the copolymers. When cured layers of the coating comps. become unnecessary, the layers can be removed by reacting with $\text{pH} \geq 8$ alkalis. Thus, an i-PhOH-based coating contained 100 parts (425 mg) of a copolymer with acid value 260 prepared by reacting methacrylic acid 4, Me methacrylate 2, and VPS 0501 (I) at ratio 4:2:2,

and 18 parts (75 mg) 2,2',4,4'-tetrahydroxybenzophenone. It was sprayed on black acrylic melamine resin plates, top-coated by spraying a PhOH-based dispersion of a 1:1 TiO₂/SiO₂ mixture and dried to give test pieces showing contact angle to water after irradiating 2 or 20-J UV light 17 and ≤10°, good film removability with alkalis, and giving no harms to the substrates.

REFERENCE 2

AN 133:151097 CA
 TI Anionic block copolymers containing polysiloxane segments with reduced monomer and solvent contents, and their manufacture
 IN Takeuchi, Hideo; Shimamura, Nobutaka
 PA Wako Pure Chemical Industries, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000219715	A2	20000808	JP 1999-164530	19990611
PRAI	JP 1998-352151		19981126		

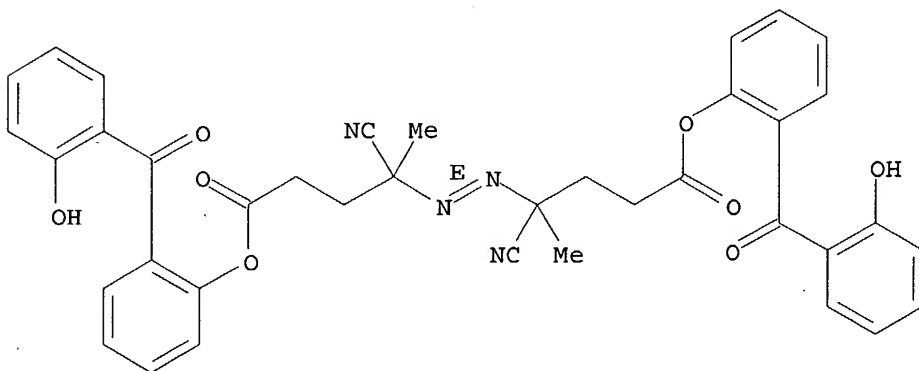
AB The polymers comprise repeating units of (a) SiR₁R₂(OSiR₃R₄)_nOSiR₁R₂ (R₁, R₂ = H, lower alkyl; R₃, R₄ = H, lower alkyl, aryl; n = 0-200), (b) CH₂CR₅CO₂H (R₅ = H, Me), and (c) CH₂CMeCO₂R₆ (R₆ = lower alkyl) and contain ≤1% residual monomers and solvents. The polymers are manufactured from corresponding unsatd. carboxylic acids and methacrylates in the presence of [CO(CH₂)_mCR₇R₈N:NCR₉R₁₀(CH₂)_mCOAESiR₁R₂(OSiR₃R₄)_nOSiR₁R₂EA]_p (R₇-R₁₀ = lower alkyl, cyano-group; A = N, H, O; E = lower alkylene, linkage, may contain O; m = 0-6; p = natural number). Thus, 40 g methacrylic acid and 20 g tert-Bu methacrylate were polymerized in the presence of 40 g [CO(CH₂)₂CCNMeN:NCCNMe(CH₂)₂CONH(CH₂)₃SiMe₂(OSiMe₂)_nOSiMe₂(CH₂)₃NH]_p (VPS 0501) and precipitated in H₂O to give polymer powders, showing yield 96.6 g, no solvent and monomer content, and proportion of a, b, and c, 41.2, 34.8, and 24.0%, resp.

L5 ANSWER 9 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 37813-10-8 REGISTRY
 CN Pentanoic acid, 4,4'-azobis[4-cyano-, bis[2-(2-hydroxybenzoyl)phenyl] ester, (E)- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Bis[2-(2-hydroxybenzoyl)phenyl] trans-4,4'-azobis(4-cyanovalerate)
 FS STEREOSEARCH
 MF C38 H32 N4 O8
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL
 DT.CA CAPLUS document type: Patent
 RL.P Roles from patents: PREP (Preparation); USES (Uses)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 87:185285 CA
TI Bisazo free radical initiators containing ultraviolet light stabilizing groups
IN Sheppard, Chester S.; MacLeay, Ronald E.
PA Pennwalt Corp., USA
SO U.S., 21 pp. Division of U.S. 3,956,269.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4045426	A	19770830	US 1976-663655	19760304
	US 3956269	A	19760511	US 1974-435623	19740122
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427

PRAI US 1970-98893 19701216
US 1974-435623 19740122
US 1974-435622 19740122

AB Compds. containing azo or peroxide linkages as well as the radical of an UV light stabilizing group function as polymerization initiators which cause an UV light stabilizing group to be chemical bound to the polymer. Thus, 4-(4-tert-butylazo-4-cyanovaleryloxy)-2-hydroxybenzophenone (I) [36339-08-9], prepared by treating 2,4-dihydroxybenzophenone [131-56-6] with 4-tert-butylazo-4-cyanovaleryl chloride [25176-64-1], was used as an initiator in the polymerization of styrene. The polystyrene [9003-53-6]

product

had a higher retention of flexural strength than polymer prepared by adding an extraneous UV absorber during polymerization (degradation after 160 h of UV radiation) or polymer prepared without any UV stabilizer present (degradation after 80 h exposure). I was also effective as a crosslinking agent for a maleic anhydride-phthalic anhydride-propylene glycol copolymer [25037-66-5] providing a cured resin which was stabilized against UV light degradation

REFERENCE 2

AN 87:168628 CA
TI Azo-peroxide free radical initiators containing ultraviolet light stabilizing groups
IN Sheppard, Chester S.; MacLeay, Ronald E.
PA Pennwalt Corp., USA
SO U.S., 20 pp. Division of U.S. 3,956,269.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4045427	A	19770830	US 1976-663654	19760304
	US 3956269	A	19760511	US 1974-435623	19740122
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427

PRAI US 1970-98893 19701216
US 1974-435623 19740122
US 1974-435622 19740122

AB Compds. containing azo or peroxide linkages as well as the radical of an UV light-stabilizing group were prepared for use as polymerization initiators which

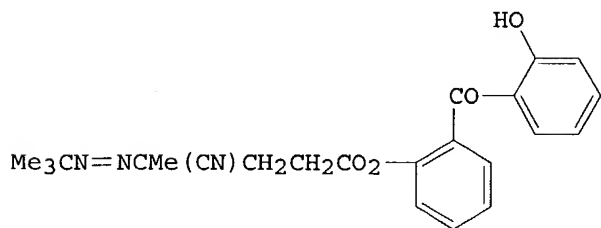
provide an UV light-stabilizing group to be chemical bound to the polymer. Thus, 10.2 g levulinic acid [123-76-2] in 25 mL water was treated with 50% NaOH 7.04, NaCN 5.88 and tert-butylhydrazine hydrochloride [7400-27-3] 10.9 g at room temperature and chlorinated at <15°C to give 4-tert-butylazo-4-cyanovaleric acid [25149-50-2] which (5 g) was treated with 2 mL thionyl chloride in 15 mL C₆H₆ to give 4-tert-butylazo-4-cyanovaleryl chloride (I) [25176-64-1]. A solution of 2,4-dihydroxybenzophenone [131-56-6] and 2.5 mL pyridine in 35 mL ether was treated with 4 g I to prepare 4-(4-tert-butylazo-4-cyanovaleryloxy)-2-hydroxybenzophenone (II) [36339-08-9]. Polystyrene [9003-53-6], prepared by suspension polymerization of water 1000, gelatin 0.0828, Ca phosphate 50 and styrene 500 g containing 0.755 parts per hundred parts resin II, was press-molded 5 min at 300°F to give samples with flexural strength 7243, 6384, 6595, and 6581 psi after 0, 80, 160, and 240 h exposure to UV light, resp.

REFERENCE 3

AN 85:78678 CA
 TI Azo free radical initiators containing ultraviolet light stabilizing groups
 IN Sheppard, Chester S.; MacLeay, Ronald E.
 PA Pennwalt Corp., USA
 SO U.S., 21 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3956269	A	19760511	US 1974-435623	19740122
	CA 974981	A1	19750923	CA 1971-125167	19711014
	JP 55050041	B4	19801216	JP 1971-101114	19711215
	US 4045427	A	19770830	US 1976-663654	19760304
	US 4045426	A	19770830	US 1976-663655	19760304
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427
	US 4129586	A	19781212	US 1977-803493	19770606
PRAI	US 1970-98893		19701216		
	US 1974-435622		19740122		
	US 1974-435623		19740122		
	US 1976-663653		19760304		

GI



AB Peroxide and azo free-radical initiators containing uv light stabilizing groups are prepared by treating uv stabilizers with azo compds. or peroxides or by rearrangement of azo compds. or peroxides containing phenyl esters of

carboxylic acids. Thus, treatment of 2,2'-dihydroxybenzophenone (I) [835-11-0] with 4-tert-butylazo-4-cyanovaleryl chloride [25176-64-1] gave 2-(4-tert-butylazo-4-cyanovaleryloxy)-2'-hydroxybenzophenone (II) [37813-09-5]. Styrene was polymerized in the presence of 0.755 phr II to give polystyrene [9003-53-6] which retained 90.9% of its flexural strength after 240 hr exposure to a uv lamp. Treatment of I with tert-butyl 2-(chlorocarbonyl)peoxybenzoate [36865-32-4] gave a 94.3% yield of OO-tert-butyl O-2-(2-hydroxybenzoyl)phenyl monoperoxyphthalate [36865-31-3] which was also a suitable catalyst and uv light stabilizer for the polymerization of styrene.

REFERENCE 4

AN 77:115110 CA
 TI Free-radical azo or peroxide initiators containing ultraviolet radiation-stabilizing groups
 IN Sheppard, Chester S.; MacLeay, Ronald E.
 PA Pennwalt Corp.
 SO Ger. Offen., 67 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2162534	A	19720706	DE 1971-2162534	19711216
	CA 974981	A1	19750923	CA 1971-125167	19711014
	JP 55050041	B4	19801216	JP 1971-101114	19711215
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427

PRAI US 1970-98893 19701216
 US 1974-435622 19740122

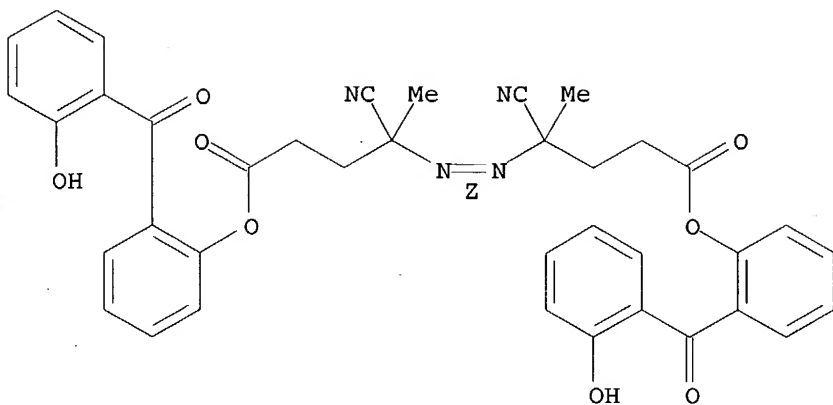
AB Catalysts containing both uv-absorbing groups and azo or peroxide groups give polymers from which the uv-absorbers are not removed by evaporation, extraction or erosion. Thus, reaction of Na levulinate with NaCN and Me3CNHNH2 in H2O 5 hr at room temperature and chlorination at 5-15.deg. gives 52.5% 4-(tert-butylazo)-4-cyanovaleric acid [25149-50-2], which with SOCl2 in C6H6 at 25.deg. gives 98.8% 4-(tert-butylazo)-4-cyanovaleroyl chloride (I) [25176-64-1]. 2,4-Dihydroxybenzophenone, I, and pyridine in Et2O at 25.deg. give 99% 4-[[4-(tert-butylazo)-4-cyanovaleroyl]oxy]-2-hydroxybenzophenone (II) [36339-08-9]. Suspension polymerization in the presence of 0.755 phr II gives polystyrene [9003-53-6], mol. weight 302,800, tensile strength 509 and 462 Kg/cm2, resp., before and after 240 hr exposure to uv light.

L5 ANSWER 10 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 36865-29-9 REGISTRY
 CN Pentanoic acid, 4,4'-azobis[4-cyano-, bis[2-(2-hydroxybenzoyl)phenyl] ester, (Z)- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Bis[2-(2-hydroxybenzoyl)phenyl] cis-4,4'-azobis[4-cyanovalerate]
 FS STEREOSEARCH
 MF C38 H32 N4 O8
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL
 DT.CA Caplus document type: Patent
 RL.P Roles from patents: PREP (Preparation); USES (Uses)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)

4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 87:185285 CA

TI Bisazo free radical initiators containing ultraviolet light stabilizing groups

IN Sheppard, Chester S.; MacLeay, Ronald E.

PA Pennwalt Corp., USA

SO U.S., 21 pp. Division of U.S. 3,956,269.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 4045426	A	19770830	US 1976-663655	19760304
	US 3956269	A	19760511	US 1974-435623	19740122
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427
PRAI	US 1970-98893	19701216			
	US 1974-435623	19740122			
	US 1974-435622	19740122			

AB Compds. containing azo or peroxide linkages as well as the radical of an UV light stabilizing group function as polymerization initiators which cause an UV light stabilizing group to be chemical bound to the polymer. Thus, 4-(4-tert-butylazo-4-cyanovaleryloxy)-2-hydroxybenzophenone (I) [36339-08-9], prepared by treating 2,4-dihydroxybenzophenone [131-56-6] with 4-tert-butylazo-4-cyanovaleryl chloride [25176-64-1], was used as an initiator in the polymerization of styrene. The polystyrene [9003-53-6] product

had a higher retention of flexural strength than polymer prepared by adding an extraneous UV absorber during polymerization (degradation after 160 h of UV radiation) or polymer prepared without any UV stabilizer present (degradation after 80 h exposure). I was also effective as a crosslinking agent for a maleic anhydride-phthalic anhydride-propylene glycol copolymer [25037-66-5] providing a cured resin which was stabilized against UV light degradation

REFERENCE 2

AN 87:168628 CA

TI Azo-peroxide free radical initiators containing ultraviolet light stabilizing groups

IN Sheppard, Chester S.; MacLeay, Ronald E.
PA Pennwalt Corp., USA
SO U.S., 20 pp. Division of U.S. 3,956,269.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4045427	A	19770830	US 1976-663654	19760304
	US 3956269	A	19760511	US 1974-435623	19740122
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427

PRAI US 1970-98893 19701216
US 1974-435623 19740122
US 1974-435622 19740122

AB Compds. containing azo or peroxide linkages as well as the radical of an UV light-stabilizing group were prepared for use as polymerization initiators which

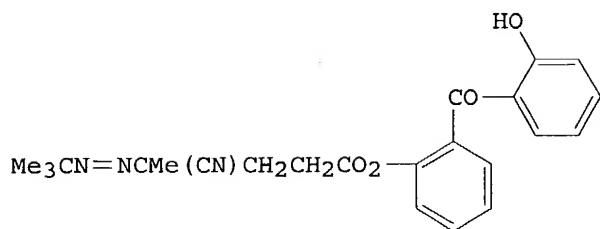
provide an UV light-stabilizing group to be chemical bound to the polymer. Thus, 10.2 g levulinic acid [123-76-2] in 25 mL water was treated with 50% NaOH 7.04, NaCN 5.88 and tert-butylhydrazine hydrochloride [7400-27-3] 10.9 g at room temperature and chlorinated at <15°C to give 4-tert-butylazo-4-cyanovaleric acid [25149-50-2] which (5 g) was treated with 2 mL thionyl chloride in 15 mL C₆H₆ to give 4-tert-butylazo-4-cyanovaleryl chloride (I) [25176-64-1]. A solution of 2,4-dihydroxybenzophenone [131-56-6] and 2.5 mL pyridine in 35 mL ether was treated with 4 g I to prepare 4-(4-tert-butylazo-4-cyanovaleryloxy)-2-hydroxybenzophenone (II) [36339-08-9]. Polystyrene [9003-53-6], prepared by suspension polymerization of water 1000, gelatin 0.0828, Ca phosphate 50 and styrene 500 g containing 0.755 parts per hundred parts resin II, was press-molded 5 min at 300°F to give samples with flexural strength 7243, 6384, 6595, and 6581 psi after 0, 80, 160, and 240 h exposure to UV light, resp.

REFERENCE 3

AN 85:78678 CA
TI Azo free radical initiators containing ultraviolet light stabilizing groups
IN Sheppard, Chester S.; MacLeay, Ronald E.
PA Pennwalt Corp., USA
SO U.S., 21 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3956269	A	19760511	US 1974-435623	19740122
	CA 974981	A1	19750923	CA 1971-125167	19711014
	JP 55050041	B4	19801216	JP 1971-101114	19711215
	US 4045427	A	19770830	US 1976-663654	19760304
	US 4045426	A	19770830	US 1976-663655	19760304
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427
	US 4129586	A	19781212	US 1977-803493	19770606
PRAI	US 1970-98893		19701216		
	US 1974-435622		19740122		
	US 1974-435623		19740122		
	US 1976-663653		19760304		

GI



I

AB Peroxide and azo free-radical initiators containing uv light stabilizing groups are prepared by treating uv stabilizers with azo compds. or peroxides or by rearrangement of azo compds. or peroxides containing phenyl esters of carboxylic acids. Thus, treatment of 2,2'-dihydroxybenzophenone (I) [835-11-0] with 4-tert-butylazo-4-cyanovaleryl chloride [25176-64-1] gave 2-(4-tert-butylazo-4-cyanovaleryloxy)-2'-hydroxybenzophenone (II) [37813-09-5]. Styrene was polymerized in the presence of 0.755 phr II to give polystyrene [9003-53-6] which retained 90.9% of its flexural strength after 240 hr exposure to a uv lamp. Treatment of I with tert-butyl 2-(chlorocarbonyl)peoxybenzoate [36865-32-4] gave a 94.3% yield of OO-tert-butyl O-2-(2-hydroxybenzoyl)phenyl monoperoxyphthalate [36865-31-3] which was also a suitable catalyst and uv light stabilizer for the polymerization of styrene.

REFERENCE 4

AN 77:115110 CA
 TI Free-radical azo or peroxide initiators containing ultraviolet radiation-stabilizing groups
 IN Sheppard, Chester S.; MacLeay, Ronald E.
 PA Pennwalt Corp.
 SO Ger. Offen., 67 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2162534	A	19720706	DE 1971-2162534	19711216
	CA 974981	A1	19750923	CA 1971-125167	19711014
	JP 55050041	B4	19801216	JP 1971-101114	19711215
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427
PRAI	US 1970-98893		19701216		
	US 1974-435622		19740122		

AB Catalysts containing both uv-absorbing groups and azo or peroxide groups give polymers from which the uv-absorbers are not removed by evaporation, extraction or erosion. Thus, reaction of Na levulinate with NaCN and $\text{Me}_3\text{CNHNH}_2$ in H_2O 5 hr at room temperature and chlorination at 5-15.deg. gives 52.5% 4-(tert-butylazo)-4-cyanovaleric acid [25149-50-2], which with SOCl_2 in C_6H_6 at 25.deg. gives 98.8% 4-(tert-butylazo)-4-cyanovaleroyl chloride (I) [25176-64-1]. 2,4-Dihydroxybenzophenone, I, and pyridine in Et_2O at 25.deg. give 99% 4-[[4-(tert-butylazo)-4-cyanovaleroyl]oxy]-2-hydroxybenzophenone (II) [36339-08-9]. Suspension polymerization in the presence of 0.755 phr II gives polystyrene [9003-53-6], mol. weight 302,800, tensile strength 509 and 462 Kg/cm², resp., before and after 240 hr exposure to uv light.

L5 ANSWER 11 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 36865-28-8 REGISTRY

CN Pentanoic acid, 4,4'-azobis[4-cyano-, bis(4-benzoyl-3-hydroxyphenyl)
ester, (E)- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Bis(3-hydroxy-4-benzoylphenyl) trans-4,4'-azobis[4-cyanovalerate]

FS STEREOSEARCH

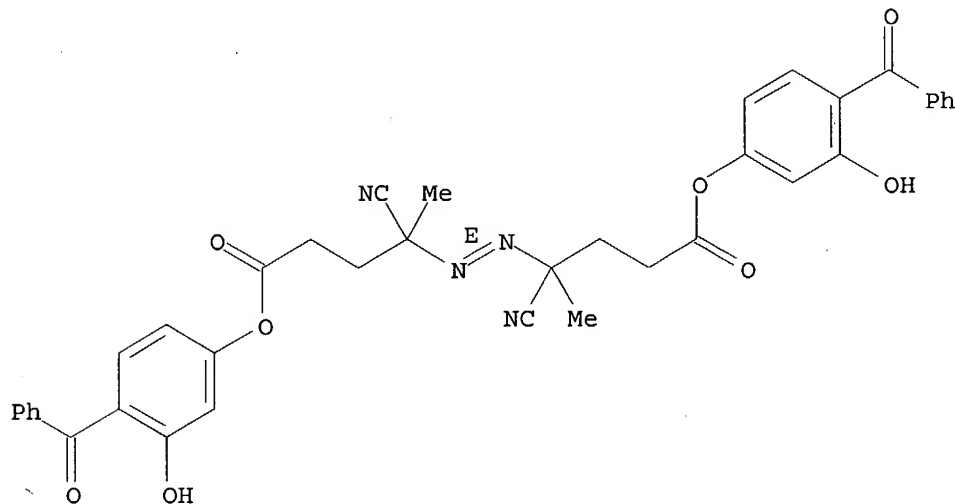
MF C38 H32 N4 O8

LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

DT.CA Caplus document type: Patent

RL.P Roles from patents: PREP (Preparation); USES (Uses)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)

4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 87:185285 CA

TI Bisazo free radical initiators containing ultraviolet light stabilizing
groups

IN Sheppard, Chester S.; MacLeay, Ronald E.

PA Pennwalt Corp., USA

SO U.S., 21 pp. Division of U.S. 3,956,269.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4045426	A	19770830	US 1976-663655	19760304
	US 3956269	A	19760511	US 1974-435623	19740122
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427
PRAI	US 1970-98893		19701216		
	US 1974-435623		19740122		
	US 1974-435622		19740122		

AB Compds. containing azo or peroxide linkages as well as the radical of an UV
light stabilizing group function as polymerization initiators which cause an UV
light stabilizing group to be chemical bound to the polymer. Thus,

4-(4-tert-butylazo-4-cyanovaleryloxy)-2-hydroxybenzophenone (I) [36339-08-9], prepared by treating 2,4-dihydroxybenzophenone [131-56-6] with 4-tert-butylazo-4-cyanovaleryl chloride [25176-64-1], was used as an initiator in the polymerization of styrene. The polystyrene [9003-53-6] product had a higher retention of flexural strength than polymer prepared by adding an extraneous UV absorber during polymerization (degradation after 160 h of UV radiation) or polymer prepared without any UV stabilizer present (degradation after 80 h exposure). I was also effective as a crosslinking agent for a maleic anhydride-phthalic anhydride-propylene glycol copolymer [25037-66-5] providing a cured resin which was stabilized against UV light degradation

REFERENCE 2

AN 87:168628 CA
 TI Azo-peroxide free radical initiators containing ultraviolet light stabilizing groups
 IN Sheppard, Chester S.; MacLeay, Ronald E.
 PA Pennwalt Corp., USA
 SO U.S., 20 pp. Division of U.S. 3,956,269.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4045427	A	19770830	US 1976-663654	19760304
	US 3956269	A	19760511	US 1974-435623	19740122
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427
PRAI	US 1970-98893		19701216		
	US 1974-435623		19740122		
	US 1974-435622		19740122		

AB Compds. containing azo or peroxide linkages as well as the radical of an UV light-stabilizing group were prepared for use as polymerization initiators which provide an UV light-stabilizing group to be chemical bound to the polymer. Thus, 10.2 g levulinic acid [123-76-2] in 25 mL water was treated with 50% NaOH 7.04, NaCN 5.88 and tert-butylhydrazine hydrochloride [7400-27-3] 10.9 g at room temperature and chlorinated at <15°C to give 4-tert-butylazo-4-cyanovaleric acid [25149-50-2] which (5 g) was treated with 2 mL thionyl chloride in 15 mL C₆H₆ to give 4-tert-butylazo-4-cyanovaleryl chloride (I) [25176-64-1]. A solution of 2,4-dihydroxybenzophenone [131-56-6] and 2.5 mL pyridine in 35 mL ether was treated with 4 g I to prepare 4-(4-tert-butylazo-4-cyanovaleryloxy)-2-hydroxybenzophenone (II) [36339-08-9]. Polystyrene [9003-53-6], prepared by suspension polymerization of water 1000, gelatin 0.0828, Ca phosphate 50 and styrene 500 g containing 0.755 parts per hundred parts resin II, was press-molded 5 min at 300°F to give samples with flexural strength 7243, 6384, 6595, and 6581 psi after 0, 80, 160, and 240 h exposure to UV light, resp.

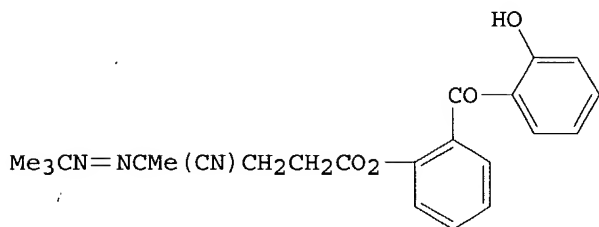
REFERENCE 3

AN 85:78678 CA
 TI Azo free radical initiators containing ultraviolet light stabilizing groups
 IN Sheppard, Chester S.; MacLeay, Ronald E.
 PA Pennwalt Corp., USA
 SO U.S., 21 pp.
 CODEN: USXXAM
 DT Patent
 LA English

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3956269	A	19760511	US 1974-435623	19740122
	CA 974981	A1	19750923	CA 1971-125167	19711014
	JP 55050041	B4	19801216	JP 1971-101114	19711215
	US 4045427	A	19770830	US 1976-663654	19760304
	US 4045426	A	19770830	US 1976-663655	19760304
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427
	US 4129586	A	19781212	US 1977-803493	19770606
PRAI	US 1970-98893		19701216		
	US 1974-435622		19740122		
	US 1974-435623		19740122		
	US 1976-663653		19760304		

GI



AB Peroxide and azo free-radical initiators containing uv light stabilizing groups are prepared by treating uv stabilizers with azo compds. or peroxides or by rearrangement of azo compds. or peroxides containing phenyl esters of carboxylic acids. Thus, treatment of 2,2'-dihydroxybenzophenone (I) [835-11-0] with 4-tert-butylazo-4-cyanovaleryl chloride [25176-64-1] gave 2-(4-tert-butylazo-4-cyanovaleryloxy)-2'-hydroxybenzophenone (II) [37813-09-5]. Styrene was polymerized in the presence of 0.755 phr II to give polystyrene [9003-53-6] which retained 90.9% of its flexural strength after 240 hr exposure to a uv lamp. Treatment of I with tert-butyl 2-(chlorocarbonyl)peoxybenzoate [36865-32-4] gave a 94.3% yield of OO-tert-butyl O-2-(2-hydroxybenzoyl)phenyl monoperoxyphthalate [36865-31-3] which was also a suitable catalyst and uv light stabilizer for the polymerization of styrene.

REFERENCE 4

AN 77:115110 CA
 TI Free-radical azo or peroxide initiators containing ultraviolet radiation-stabilizing groups
 IN Sheppard, Chester S.; MacLeay, Ronald E.
 PA Pennwalt Corp.
 SO Ger. Offen., 67 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2162534	A	19720706	DE 1971-2162534	19711216
	CA 974981	A1	19750923	CA 1971-125167	19711014
	JP 55050041	B4	19801216	JP 1971-101114	19711215
	US 4042773	A	19770816	US 1976-680546	19760427
	US 4055714	A	19771025	US 1976-680545	19760427

PRAI US 1970-98893 19701216

US 1974-435622 19740122

AB Catalysts containing both uv-absorbing groups and azo or peroxide groups give polymers from which the uv-absorbers are not removed by evaporation, extraction or erosion. Thus, reaction of Na levulinate with NaCN and Me₃CNHNH₂ in H₂O 5 hr at room temperature and chlorination at 5-15.deg. gives 52,5% 4-(tert-butylazo)-4-cyanovaleric acid [25149-50-2], which with SOCl₂ in C₆H₆ at 25.deg. gives 98.8% 4-(tert-butylazo)-4-cyanovaleroyl chloride (I) [25176-64-1]. 2,4-Dihydroxybenzophenone, I, and pyridine in Et₂O at 25.deg. give 99% 4-[[4-(tert-butylazo)-4-cyanovaleroyl]oxy]-2-hydroxybenzophenone (II) [36339-08-9]. Suspension polymerization in the presence of 0.755 phr II gives polystyrene [9003-53-6], mol. weight 302,800, tensile strength 509 and 462 Kg/cm², resp., before and after 240 hr exposure to uv light.

L5 ANSWER 12 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN

RN 2638-94-0 REGISTRY

CN Pentanoic acid, 4,4'-azobis[4-cyano- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Valeric acid, 4,4'-azobis[4-cyano- (6CI, 8CI)

OTHER NAMES:

CN 4,4'-Azobis(4-cyanopentanecarboxylic acid)

CN 4,4'-Azobis(cyanovaleric acid)

CN 4,4'-Azobis[4-cyanopentanoic acid]

CN 4,4'-Azobis[4-cyanovaleric acid]

CN ACV-A

CN Azobis(cyanovaleric acid)

CN NSC 114466

CN V 501

FS 3D CONCORD

DR 158947-06-9, 159172-39-1, 25532-89-2, 30248-30-7, 209196-69-0

MF C12 H16 N4 O4

CI COM

LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHM, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, RTECS*, SPECINFO, TOXCENTER, USPAT2, USPATFULL

(*File contains numerically searchable property data)

Other Sources: EINECS**, NDSL**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

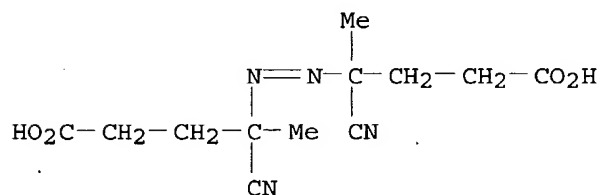
DT.CA Caplus document type: Conference; Journal; Patent

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); MSC (Miscellaneous); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

711 REFERENCES IN FILE CA (1907 TO DATE)
79 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
713 REFERENCES IN FILE CAPLUS (1907 TO DATE)
10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1

AN 141:314748 CA
TI Degradation and grafting of hydroxyethyl cellulose during emulsion polymerization
AU Annable, Tom; Gray, Ian; Lovell, Peter A.; Richards, Stuart N.; Satgurnathan, Guru
CS Avecia, Manchester, M9 8ZS, UK
SO Progress in Colloid & Polymer Science (2004), 124, 159-163
CODEN: PCPSD7; ISSN: 0340-255X
PB Springer
DT Journal
LA English
AB Degradation of hydroxyethyl cellulose (HEC) in aqueous solution at 80° was studied with the observations that degradation is rapid in the presence of ammonium persulfate (APS), but slow with 4,4'-azobis(4-cyanopentanoic acid), and that hydrolytic degradation is insignificant. Acrylic emulsion polymers performed at 80° with HEC as the principal colloid stabilizer and APS as initiator have also been studied. In the presence of acrylic monomers, the dominant reaction leads to grafting of HEC chains to the latex particles. However, during periods when monomer is absent the HEC chains degrade and those that are grafted to latex particles release free HEC chain fragments to the aqueous phase. These observations are discussed in relation to a proposed mechanism for degradation and grafting of HEC.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

REFERENCE 2

AN 141:310058 CA
TI Effects of polymer grafting on a glass surface for protein chip applications
AU Kim, Jae-Kwon; Shin, Dong-Sik; Chung, Woo-Jae; Jang, Ki-Hoon; Lee, Kook-Nyung; Kim, Yong-Kweon; Lee, Yoon-Sik
CS School of Chemical Engineering, Seoul National University, Seoul, 151-742, S. Korea
SO Colloids and Surfaces, B: Biointerfaces (2004), 33(2), 67-75
CODEN: CSBBEQ; ISSN: 0927-7765
PB Elsevier B.V.
DT Journal
LA English
AB Glass surfaces were modified using several hydrophilic polymers for the fabrication of protein chips and biosensors. Surface activation was carried out by silanization, and polymer films were introduced to the glass substrates by using two methods. First, preformed amino group containing polymers, capable of reacting with appropriate surface sites, were coupled to the glass substrates. Second, polymer layers were formed by free radical chain polymerization using immobilized initiators. Covalent binding and non-specific antibody adsorption were examined by quantifying IgG-peroxidase conjugates immobilized to the polymer-grafted glass substrates. Polymer-grafted glass substrates showed that non-specific adsorption was reduced by 10-60% as compared with 3-aminopropyltriethoxysilane (APTS)-treated substrate. In particular, chitosan-grafted substrates exhibited very low non-specific protein

adsorption. Despite this protein-rejecting phenomenon of the surface-bound polymer, the quantity of antibodies immobilized by covalent binding to the polymer-grafted glass substrates was comparable to that immobilized on the non-polymer-grafted surface. We also performed a protein patterning experiment on the polymer-grafted surface by using maskless photolithog. We found that the chitosan-grafted glass substrate, with good protein repellency, displayed a very clear streptavidin-patterned surface.

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

REFERENCE 3

AN 141:251175 CA
TI Acrylic polymers, adhesives, optical laminates, and recovery of glass substrates
IN Morisada, Ikuo; Yamamoto, Satoshi; Iwata, Satoru
PA Sumitomo Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004244561	A2	20040902	JP 2003-37796	20030217
PRAI	JP 2003-37796		20030217		

AB The acrylic polymers are reaction products of (A) $H_2C:CR_1C(:O)OR_2$ (I; $R_1 = H, Me$; $R_2 = C_1-14$ alkyl, C_7-14 aralkyl; alkyl or aralkyl in R_2 may be bonded to C_1-10 alkoxy)-based polymers having ≥ 1 functional groups selected from primary amino, secondary amino, and CO_2H and (B) polymers having monomer units I and monomers having ≥ 1 functional groups with reactivity for the functional groups in A and olefinic double bonds and no primary amino, secondary amino, and CO_2H groups. The adhesives comprise the acrylic polymers and curing agents and/or silanes. White patch-prevented optical laminates, useful for liquid-crystal displays, are obtained by applying adhesives on optical films such as polarizing films and retardation films, laminating releasing films on the adhesive layers, peeling the releasing films, and laminating glass substrates on the adhesive layers. Stress concentration caused by expansion and contraction of optical films is relaxed without using plasticizers. Glass substrates are recovered without haze and residues of adhesives.

REFERENCE 4

AN 141:243989 CA
TI Manufacture of high-molecular-weight poly(allyl acetate) and poly(allyl alcohol) in one step
IN Iio, Kokoro
PA National Institute of Advanced Industrial Science and Technology, Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004256620	A2	20040916	JP 2003-47113	20030225
PRAI	JP 2003-47113		20030225		

AB The manufacturing method for poly(allyl acetate) includes radically polymerizing allyl acetate (I) in the presence of water soluble initiators and Zn salts or inorg. acids. The manufacturing methods for poly(allyl alc.) includes radically

polymerizing I or allyl alc. (II) in the presence of water soluble initiators and Zn salts and in the case of I, hydrolyzing while removing Zn. Thus, polymerizing I in the presence of ZnCl₂ and 4,4'-azobis(4-cyanovaleric acid), adding NaOH, and removing Zn(OH)₂ gave a poly(allyl alc.) with Mw 16,640 and d.p. 287.

REFERENCE 5

AN 141:233138 CA
TI Toner for development of electrostatic latent image
IN Hirao, Shino; Ueda, Hideaki; Nakamura, Mitsutoshi; Matsumoto, Mitsuyo
PA Minolta Camera Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004240269	A2	20040826	JP 2003-30667	20030207
PRAI	JP 2003-30667	20030207			

AB Disclosed is the toner obtained by wet polymerization under the conditions of A and/or B. In the condition (A), the polymerization is carried out using a chain transfer agent represented by R₁OCOCH(CH₃)CH₂-SH (R₁ = chain-type hydrocarbon) and/or R₂ -OCH₂CH₂CH₂-SH (R₂ = chain-type hydrocarbon, aromatic group). In the condition (B), the polymerization is carried out using an initiator selected from bisazo polymerization initiators at a monomer ratio 0.1-2.0 mol% at a 10 h-half life time temperature of -5 - +15°. The initiator may include 4,4'-azobis(cyano-valeric acid).

REFERENCE 6

AN 141:231378 CA
TI Method of obtaining a heterogenized platinum catalyst
IN Marciniec, Bogdan; Foltynowicz, Zenon; Chęcinski, Dariusz
PA Uniwersytet im. Adama Mickiewicza, Pol.
SO Pol., 5 pp.
CODEN: POXXA7

DT Patent
LA Polish
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	PL 186515	B1	20040130	PL 1997-322150	19970915
PRAI	PL 1997-322150	19970915			

AB A method of preparation of the platinum heterogenized catalysts is described. The silica modified by the silane-type mols. and containing platinum complexes formed by the immobilization of hexachloroplatinic acid was coated by polymeric membrane formed by condensation of methacrylic acid or amine acid with amine groups from the silica surface. The silica modification was carried out using a compound with formula of (RO)₃Si(CH₂)_nR₁ with R is corresponding to Me or Et group and n = 1, 2 or 3 and R₁ represents chlorine or amine group. Subsequently the hexachloroplatinic acid was immobilized on the prepared silica surface and polymeric membrane was formed on so prepared silica.

REFERENCE 7

AN 141:230782 CA
TI Coating composition for polymeric surfaces comprising serpin or derivatives
IN Berry, Leslie Roy; Chan, Anthony Kam Chuen; Du, Ying Jun; Tressel, Paul

PA Hamilton Civic Hospitals Research Development Inc., Can.
 SO PCT Int. Appl., 35 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004073760	A1	20040902	WO 2004-CA247	20040220
	W:	AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI			
	RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRAI US 2003-448116P 20030220

AB The invention relates generally to a coating composition for a polymeric surface, methods for coating a polymeric surface, methods for preparing coated medical devices, polymeric surfaces coated with the coating composition, and medical devices comprising the coating composition. In particular, a coating composition for association with a polymeric surface, preferably a polymeric surface of a medical device, is described comprising a crosslinked base-coat displaying a plurality of active groups in association with a serpin or serpin derivs., wherein the serpin or serpin derivs. are not substantially crosslinked with other serpin or serpin derivs.

REFERENCE 8

AN 141:225894 CA
 TI Functionalization of hydrogen-terminated Si(100) substrate by surface-initiated RAFT polymerization of 4-vinylbenzyl chloride and subsequent derivatization for photoinduced metallization
 AU Yu, W. H.; Kang, E. T.; Neoh, K. G.
 CS Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore, 119260, Singapore
 SO Industrial & Engineering Chemistry Research (2004), 43(17), 5194-5202
 CODEN: IECRED; ISSN: 0888-5885
 PB American Chemical Society
 DT Journal
 LA English
 AB Well-defined and covalently bonded poly(4-vinylbenzyl chloride) (PVBC) brushes on single-crystal silicon were prepared by surface-initiated reversible addition-fragmentation chain transfer (RAFT)-mediated graft polymerization of 4-vinylbenzyl chloride (VBC) on hydrogen-terminated Si(100) (Si-H) surface. Surface initiators were immobilized on the Si-H substrates in three consecutive steps: (i) coupling of an ω -unsatd. alkyl ester to the Si-H surface under UV irradiation, (ii) reduction of the ester groups by LiAlH_4 , and (iii) esterification of the surface-tethered hydroxyl groups with 4,4'-azobis(4-cyanopentanoic acid). Kinetic studies revealed a linear increase in VBC polymer (PVBC) film thickness with polymerization time, indicating that the chain growth from the surface was a controlled process. Subsequent growth of a poly(pentafluorostyrene) (PFS) block from the PVBC-grafted silicon (Si-g-PVBC) surface, using the PVBC brushes as the macro chain transfer agents, provides further evidence of the existence of "living" chain ends. The benzyl chloride groups of the grafted PVBC were derivatized by reaction with an equimolar mixture of 1,4-di-(chloromethyl)benzene and 4,4-bipyridine to give rise to the

Si-g-viologen surface. The redox-responsive property of the Si-g-viologen surface was demonstrated by photoredn. of the surface-adsorbed Pd(II) and Au(III) ions to their resp. metallic form.

RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

REFERENCE 9

AN 141:207659 CA
TI Water-thinned hydrophilic group-containing methacrylate resin compositions
IN Ju, Hou-shian; Fu, Dau-jung
PA Ju Hou-Shian, Taiwan; Fu Dau-Jung
SO Taiwan, 2 pp.
CODEN: TWXXA5
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	TW 524808	B	20030321	TW 1996-85109006	19960722
PRAI	TW 1996-85109006		19960722		
AB	The resin compns. with 4-15% solids content are prepared by emulsion polymerization of a mixture containing 2-hydroxyethyl methacrylate or hydroxypropyl methacrylate, emulsifiers, and azo initiators at 35-90° in aqueous media. The emulsifiers comprise polyvinyl alc. or C ₆ alcs., and anionic surfactant (e.g., sodium dodecyl sulfate). The initiators are selected among AIBN, 1,1'-azobis(cyclohexanecarbonitrile), and 4,4'-azobis(4-cyanopentanoic acid).				

REFERENCE 10

AN 141:207655 CA
TI Process for the production of living radical polymers and polymers
IN Yamago, Shigeru; Yoshida, Junichi; Kameshima, Takashi
PA Otsuka Chemical Co., Ltd., Japan
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004072126	A1	20040826	WO 2004-JP1707	20040217
	W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MZ, MZ, NA, NI				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	JP 2003-38590		20030217		
	JP 2003-331544		20030924		
AB	The present invention relates to (i) a process for the production of living radical polymers, characterized by polymerizing a vinyl monomer by the use of an organo tellurium compound CR ₂ R ₃ R ₄ TeR ₁ and an azo polymerization initiator and				
	(ii) living radical polymers produced by the process, wherein R ₁ = C ₁ -8 alkyl, aryl, substituted aryl, or an aromatic heterocyclic group; R ₂ , R ₃ = H				

or C1-8 alkyl; and R4 = aryl, substituted aryl, an aromatic heterocyclic group, acyl, oxycarbonyl, or cyano. Thus, 6.38 g tellurium and 55 mmol methyllithium were stirred, 70 mmol 2-bromo-2-methyl-propionitrile was added therein and stirred to give 4.10 g 2-methyl-2-methyltelluranyl-propionitrile, 0.10 mmol of which was mixed with 0.10 mmol 2,2'-azo-bis-isobutyronitrile and 10 mmol styrene and stirred at 60° for 11 h to give a polymer with yield 94%, Mn 11,300, and polydispersity 1.13.

=>